and by Urban in his elaborate "Symbolæ Antillanæ." Part 2 of the "Nachtrag" to Engler and Prantl's "Naturlichen Pflanzenfamilien," page 72, contains a brief sketch of a new classification of the family, from which it appears that sixteen genera, with about seventy-five species, are now known. Nothwithstanding the small size of the family, it has a wide distribution in the tropics, its chief development being in Brazil and Malaya. Northwards, it stretches as far as China and Japan in Asia, and Virginia in America. In the Southern Hemisphere the New Zealand species appears to be the only one yet detected outside the tropics.

The subfamily *Thismieæ*, into which *Bagnisia* falls, now contains four genera and about fifteen species. Seven of these are from Brazil; the remainder come from Ceylon, Borneo, and New Guinea. The discovery of an additional species in New Zealand, so far removed from the two centres of distribution of the subfamily, is a decidedly unexpected and somewhat puzzling fact in geographical distribution.

Art. XXVI.—*Some New Zealand Fossil Cephalopods.*

By Professor P. Marshall, M.A., D.Sc., F.G.S., University of Otago.

[*Read before the Otago Institute, 10th November*, 1908.]

Hochstetter first discovered the remains of cephalopods in the Jurassic rocks of Kawhia. He described the species of *Ammonite* as *A. novo-zelandicus*. Two species of belemnites were also described.

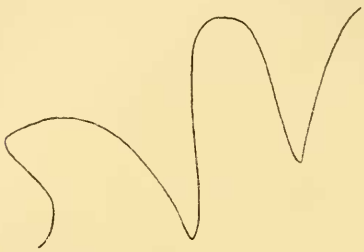
In later years Hector has added several species of belemnites to those named by Hochstetter. The occurrence has been frequently recorded by Cox, McKay, and others in the rocks of the Hokonui Hills and of Kawhia. No descriptions of these have yet been written. The species here described were collected by Mr. R. Browne and the writer in the Hokonui Hills, behind Mandeville, and by Mr. Browne near Te Puti Point, in the Kawhia Harbour. The strata in the former locality have been classed as Permian or Triassic by Hector, and in the latter they have been regarded as Jurassic by all authorities.

Broncoceras mandevillei.

Diameter, 9½ in.; breadth, 3½ in.

Surface ornamented with longitudinal and transverse striæ, giving a knotted appearance to its surface. Deeply involute. Some specimens slightly constricted towards the ventral surface; others flattened. Siphuncle not discernible even in the best-preserved specimens. Siphonal lobe somewhat acute, but less so than the interior lateral lobe.

Rather frequent in the Hokonui Hills. This appears to be the organism called in the Geological Survey reports "Palænautilus."



PART OF SUTURE-LINE OF *Broncoceras mandevillei.*

PART OF SUTURE-LINE OF *Arcestes hokonui.*

Arcestes hokonui, n. sp.

Diameter, $2\frac{3}{4}$ in.; breadth, $1\frac{1}{2}$ in.

Deeply involute, not compressed. Surface smooth, except for distant lines of growth.

Phylloceras kawhiæ, n. sp.

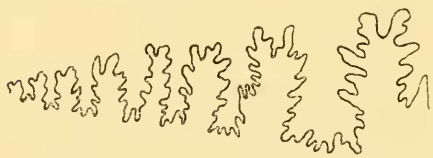
Diameter, $5\frac{1}{2}$ in.; breadth, 2 in.

Deeply involute, somewhat compressed. Shell smooth, except for rather distant lines of growth. No keel.

Ægoceras brownei, n. sp.

Diameter, 2 in.; breadth, $\frac{3}{4}$ in.

Surface marked with transverse ridges, which bifurcate near the venter. Form *Anarcestes*-like.



SUTURE-LINE OF *Phylloceras kawhiæ.*

SUTURE-LINE OF *Ægoceras brownei.*

Orthoceras brownei, n. sp.

Diameter, $1\frac{1}{2}$ in.; length, not known.

Septa $\frac{1}{3}$ in. apart. Surface smooth. Siphuncle not seen.

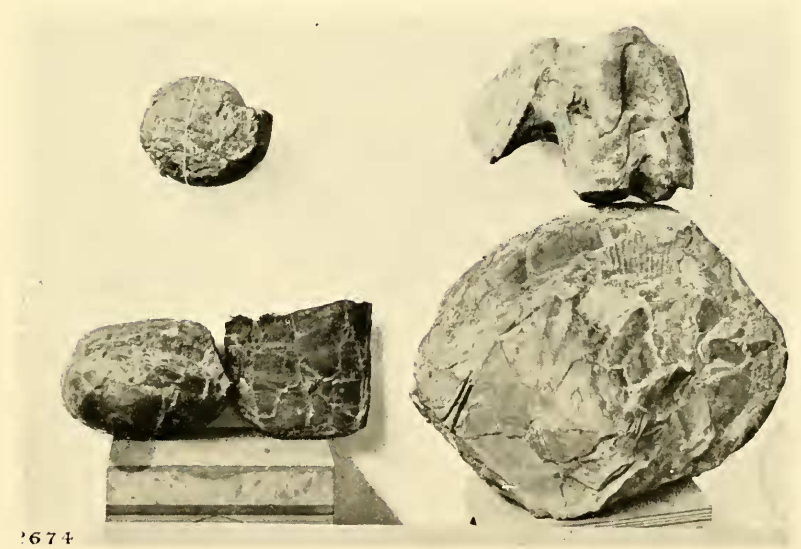
Orthoceras otapiriensis, Hector (?).

Diameter, 3 in.; length, not known.

Septa $\frac{3}{4}$ in. apart. Surface smooth. Siphuncle not seen.

This organism appears to be identical with Hector's *Belemnites otapiriensis*, which is described as in all cases of a phragmacone without any guard. He records this form as abundant in the Hokonui Hills, the locality from which this specimen came.

It is remarkable that such genera as *Broncoceras* and *Orthoceras* should be found in strata of such late periods. The former is associated with such a curious assemblage of genera that it is extremely hard to suggest any period to which they could all belong. Among these genera are *Ostræa*,



NEW ZEALAND FOSSIL CEPHALOPODS.—Marshall.

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